

Session 071 PD - Math Tutoring Program - Individualized Tutoring Can Improve Academic Outcomes for Disadvantaged Students

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Recent Research:

The Hamilton Project published research findings in 2016 that suggest scaling up a daily, individualized tutorial program will allow students who have fallen behind grade level in math to reengage with regular classroom instruction, likely increasing their chances of graduating high school and achieving the many long-term economic benefits that go along with academic success.

As part of their research, approximately 600 students were randomly assigned to receive the Match/SAGA tutorial intervention.

The impacts were strong:

- 23% increase in math test scores in standard deviation
- 50% decrease in math course failures in standard deviation
- 25% decrease in non-math course failures in standard deviation

The **mission** of the Math Motivators program is to close the Achievement Gap by establishing a volunteer-driven math tutoring program that pairs low-income urban high school students with professional actuaries and college students majoring in actuarial science, mathematics, or math education.

- The Math Motivators Pilot Program: Hartford, Ct
 - 2015-2016 academic year
 - 13 UCONN actuarial students tutored 3 after school SAT sessions with 26 high school juniors
 - Results.....
 - 2016-2017 academic year
 - 25 UCONN actuarial students, 2 MassMutual actuaries and 2 retired actuaries tutored 100 students at 2 high schools
 - Tutors provided year-round Algebra 1, AP Calc, AP Stats, and support for 4 after school SAT sessions
 - Results.....

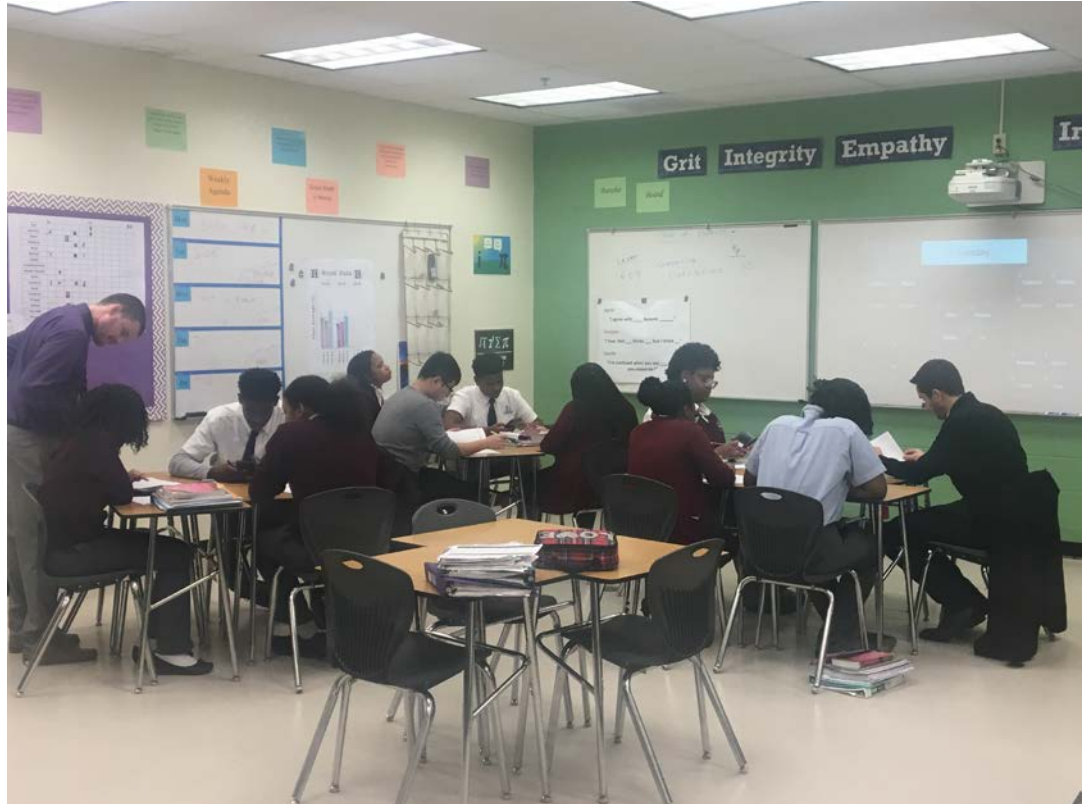
The Benefits

- **What's in it for the high school students:**
 - These students can't afford to pay for tutoring
 - Class sizes continue to grow, providing less individual attention to students
- **What's in it for the math teachers:**
 - Having extra bodies is incredibly important
 - Teachers retain control over content & methodology
- **What's in it for the principals and schools:**
 - Schools are ranked based on standardized test results (see U.S. News & World Report on annual high school rankings)
 - In the current world of school choice, rankings trump reputation and extracurricular activities of schools which impacts enrollment



Corporate Engagement

- Why did I get involved?
- What were my expectations going into the program?
- How did my expectations compare to my actual experience?
- What does my employer and the actuarial community stand to gain as a result of my involvement?



The Benefits (Continued)

- **What's in it for the tutors:**
 - Strong sense of accomplishment – making a real difference
 - Develops communication skills
 - Develops leadership skills
 - Interaction with professional actuaries
- **What's in it for the Actuarial Science programs:**
 - Stronger graduates- industry notices!
 - University notices too.
- **What's in it for the Actuarial profession:**
 - Community outreach is noticed- Actuaries making a difference
 - Adds to a positive image of Actuaries



What is the Foundation's Role?

Based on these successful outcomes to date, the Foundation has made a commitment to scale and expand this program into other cities across the United States by;

- ✓ Creating a committee to oversee the program. The members should be passionate about the program and willing to play a leadership role in their respective cities.
- ✓ Researching and identifying the next Math Motivators cities.
- ✓ Recruiting committee members and volunteer tutors living and working in these cities.
- ✓ Partnering with donors and corporate sponsors to provide annual funding to sustain and grow the Math Motivators program.
- ✓ Developing partnerships that will be helpful in the expansion including; the Actuarial Organizations (SOA, CAS, Academy, IABA), Foundations, Charter School networks (e.g. KIPP, Achievement First, Uncommon, Success), Gamma Iota Sigma and Corporations.



Math Motivators Expansion Plans



Other cities suggested; Baltimore, Washington D.C., Atlanta, Springfield (Mass), Des Moines, Philadelphia, Omaha, Twin Cities

Expansion Requires:

- 1. A university willing to promote the program and provide tutors**
- 2. A willing high school(s) that need help**
- 3. An individual to oversee the program in their community and to bring all the partners together**

Who Would Like To Join Us?

"I am a volunteer Algebra 1 tutor at a Hartford High School. The teacher and the students thank me after every session. It is incredibly rewarding to know I am working with students that need help with math but cannot afford to pay for a private tutor. It's amazing to see how much impact only an hour has on their confidence." - Joe Finch, ASA, MassMutual